Appln No. 10/591,357
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<u>Amendments to the Claims:</u>

This listing of claims will replace all prior versions, and listings, of claims in the application:

<u>Listing of Claims:</u>

1-27. (Cancelled)

28. (Currently Amended) A method for monitoring an adjustment movement of a component in a motor vehicle, the component being driven by a drive device and being adjustable in a translatory or rotary fashion, the method comprising:

inputting, at input neurons of an input layer of a neural network, a plurality of input signals being derived from the drive device and representing a deceleration of the adjustment movement of the drive device; <u>and</u>

<u>utilizing an adaptation device comprising an additional neural adaptation network;</u>

wherein the neural network comprises at least one hidden layer having hidden neurons and an output layer having at least one output neuron, said neural network outputting, at the at least one output neuron of the output layer, an output value corresponding to one of an adjusting force, a trapped state and a nontrapped state of the component<u>;</u>

<u>wherein the deceleration of the adjustment movement of the drive device is determined from a change in at least one of a period length, a motor current, and a motor voltage of a drive motor of the drive device;</u>

<u>wherein the neural adaptation network calculates, from an actual period length at an actual motor voltage, a reference period length at a reference voltage, the reference period length being dependent on a position of the component being driven by the drive device; and</u>

<u>wherein the neural adaptation network inputs the reference period length to an input neuron of the neural network as an additional input signal</u>.

29. (Previously Presented) The method as claimed in claim 28, wherein the input signals being derived from the drive device indirectly represent the deceleration of the adjustment movement of the drive device.

30. (Canceled)

31. (Previously Presented) The method as claimed in claim 28, wherein the input signals being derived from the drive device are input in parallel or in series to the input neurons of the input layer of the neural network.

32. (Previously Presented) The method as claimed in claim 28, wherein inputs of the input layer, of the at least one hidden layer and of the output layer as well as connections of the input layer to the at least one hidden layer, connections of a plurality of hidden layers to one another and connections of the at least one hidden layer to the output layer have differing weightings.

33. (Previously Presented) The method as claimed in claim 28, wherein the hidden neurons of the at least one hidden layer and the at least one output neuron of the output layer have one of constant threshold value and bias which shifts an output of transfer functions of the neurons of the at least one hidden layer and the output layer into a constant region.

34. (Previously Presented) The method as claimed in claim 28, wherein in a learning phase for at least one of the input neurons, the hidden neurons and the at least one output neuron of the neural network, the method further comprises:

assigning random weightings;

predefining various input patterns which are applied to the input neurons, and calculating the associated at least one output value; and

changing at least one of the weightings and a threshold value as a function of the difference between the at least one output value and at least one target output value.

35. (Previously Presented) The method as claimed in claim 34, wherein a degree of change in the weightings depends on the magnitude of the difference between the at least one output value and the at least one target output value.

36. (Previously Presented) The method as claimed in claim 34 or 35, comprising measuring the output value with a clip-on force measuring instrument at different spring constants, wherein the clip-on force measuring instrument outputs the measured output value in an analogous manner to the input signals.

37. (Previously Presented) The method as claimed in claim 28, wherein at least one of a motor period, a motor current and a motor voltage of a drive motor of the drive device are input into the input neurons as the input signals.

38. (Previously Presented) The method as claimed in claim 28, wherein an adaptation period specifying a period calculated at a predefined reference voltage and being associated with a position on a reference travel path stored in a learning phase is input into the input neurons as an additional input signal.

39. (Previously Presented) The method as claimed in claim 38, wherein the adaptation period is averaged, wherein the neural network calculates a new adaptation period at one of each full rotation of a drive motor of the drive device and in four quarter periods of the drive motor, said new adaptation period being provided at the next adjustment movement as the adaptation period.

40. (Previously Presented) The method as claimed in claim 28, wherein the input signals of the input neurons comprise:

values of an adaptation profile of the component being adjustable in translatory fashion;

values of an adaptation period during the adjustment movement of the component being adjustable in translatory fashion;

a run-up flag;

output values of a shift register for terminal voltages of a drive motor of the drive device;

output values of a shift register for period values;

a temperature of the drive motor;

an ambient temperature;

a speed signal;

an oscillation voltage; and

a preceding output value;

wherein the adjusting force being determined by the neural network is output as the output value of the at least one output neuron.

41. (Previously Presented) The method as claimed in claim 28, wherein in a learning phase of the neural network, input patterns being applied to the input neurons and output values being output by the at least one output neuron are selected or predefined as a function of a desired sensitivity of a system comprising the drive device at low spring constants.

42. (Previously Presented) The method as claimed in claim 41, wherein in the learning phase of the neural network an adaptation period is, after each run, determined anew during operation of the drive device.

43. (Previously Presented) The method as claimed in claim 41 or 42, wherein the learning phase takes place in the vehicle before operational application.

44. (Previously Presented) The method as claimed in claim 43, wherein weightings of the neural network being determined in the learning phase are defined during the operational application.

45-47. (Cancelled)

48. (Currrently Amended) The method as claimed in claim [[47]]<u>28</u>, wherein additional parameters comprising an ambient temperature, one of climatic data and a temperature and a

cooling behavior of a drive motor of the drive device are applied to the input neurons of the neural adaptation network.

49. (Previously Presented) The method as claimed in claim 48, wherein the adaptation device comprises one of a model of the drive device, a fuzzy system and a mathematical model with a genetically generated algorithm.

50. (Previously Presented) The method as claimed claim 28, wherein a drive motor of the drive device is one of stopped and reversed as a function of the output value of the neural network and a spring constant.

51. (Previously Presented) The method as claimed in claim 50, wherein a logic combination of the spring constant of the drive device with the output value of the neural network is carried out by means of one of a logic circuit, a mathematical model with an algorithm and a neural logic network.

52. (Previously Presented) The method as claimed in claim 50 or 51, wherein a rotational speed of the drive motor is sensed, and the difference in rotational speed between two periods of the drive motor is formed and logically combined with the output value of the neural network in such a way that:

if a first switch-off threshold value of the output value of the neural network is exceeded and the difference in rotational speed is smaller than a predefined threshold value for the difference in rotational speed, the drive motor is one of stopped and reversed, up to the end of the adjustment movement, if and only if the output value of the neural network exceeds a second switch-off threshold value which is greater than the first switch-off threshold value;

if the first switch-off threshold value of the output value of the neural network is exceeded and the difference in rotational speed is greater than the predefined threshold value for the difference in rotational speed, the drive motor is one of stopped and reversed; and

if the second switch-off threshold value is exceeded, the drive motor is one of stopped and reversed irrespective of the difference in rotational speed.

53. (Previously Presented) The method as claimed in claim 52, wherein, if the first switch-off threshold value of the output value of the neural network is exceeded and the difference in rotational speed is smaller than the predefined threshold value for the difference in rotational speed, the one of stopping and reversing of the drive motor is blocked even if the difference in rotational speed during the further adjustment movement of the drive device becomes greater than the predefined threshold value for the difference in rotational speed.

54. (Previously Presented) The method as claimed in claim 28, further comprising:

evaluating the input signals by means of the neural network in order to determine at least one of a state of the motor vehicle and a state of an adjustment device comprising the drive device;

selecting a set of weightings for the neural network from a plurality of sets of weightings independent of the evaluation of the input signals and the determined state; and

using the selected set of weightings to operate the neural network while controlling the drive device for driving the adjustable component.